

ASX Announcement ([ASX: AXE](https://www.asx.com.au/asx:axe))

12 February 2026

Quantum program enters next phase with ecosystem-led execution

Highlights

- Archer is targeting delivery of working quantum-enabled prototypes during 2026–2027, supported by global partners across materials, devices, software, and sensing.
- Qubit development accelerated via partnership with Emergence Quantum, with phase I of the collaboration underway.
- Development of Archer's 12CQ carbon-based qubit material platform is accelerating through targeted collaborations focused on readout, control, and device integration.
- Partnerships with Emergence Quantum, Queen Mary University of London (QMUL), École Polytechnique Fédérale de Lausanne (EPFL), and CSIRO form a connected ecosystem supporting execution from materials through to applications.
- Archer's Quantum Machine Learning (QML) program with CSIRO is progressing on schedule, with initial results expected mid-year.
- Archer has demonstrated cryogenic Tunnel Magnetoresistance (TMR) sensor performance and is engaging with potential customers and partners.
- Building a scalable quantum ecosystem around Archer's 12CQ platform.

Archer Materials Limited ("Archer", the "Company", "ASX: AXE"), a quantum company developing technologies in computing, sensing, and medical diagnostics, provides an update on its quantum technology strategy and key development activities amongst the opportunities and challenges shaping the global quantum sector.

The Company's approach recognises that progress in quantum technologies depends on tightly integrated ecosystems spanning materials science, device engineering, software, and end-user applications. Archer's strategy is centred on its 12CQ carbon-based qubit platform, supported by targeted partnerships that accelerate development, reduce technical risk, and broaden commercial pathways.

Through 2026 and into 2027, Archer's primary objective is to deliver working quantum-enabled prototypes and generate robust experimental data to support licensing, co-development, and commercial partnerships with global quantum and semiconductor participants

¹²CQ carbon-based qubit material platform

Device development enabled through global partnerships.

Qubit acceleration and opportunity mapping – Emergence Quantum

Archer has commenced Phase I of its collaboration with Emergence Quantum, focused on accelerating qubit development and identifying additional commercially viable opportunities enabled by Archer's graphene-based technology.

During Phase I, Emergence is working with Archer to map the potential of graphene across multiple quantum domains, define priority technical directions, and prepare pathways for targeted development and funding. Phase I is expected to conclude in the coming months, after which the collaboration is planned to progress to Phase II, focusing on experimental validation and prototype demonstrations in high-impact application areas.

Readout and control integration – QMUL

Archer's Sydney-based team, in collaboration with QMUL, is advancing the readout and control elements required for Archer's ¹²CQ qubit architecture.

Building on previously reported demonstrations of gating behaviour and single-electron transistor devices, current experiments are focused on determining electron spin states, a key requirement for qubit readout. These activities represent a critical milestone toward integrating individual readout and control components into a single functional qubit device during 2026.

Spin characterisation, sensing and room-temperature pathways – EPFL

Archer's collaboration with EPFL continues to play a foundational role in validating and extending the capabilities of its ¹²CQ materials.

Initial work with EPFL enabled the development of a pulsed electron spin resonance (p-ESR) microsystem capable of probing Archer's qubit materials at nanoscale dimensions. This capability has since been used to perform advanced measurements of potential electron spin manipulation in Archer devices.

Current efforts build on previously demonstrated electrically detected magnetic resonance (EDMR) results, with a focus on extending these techniques toward room-temperature nanoscale devices compatible with qubit architectures and ultra-sensitive magnetic sensing.

Quantum Machine Learning

Software-led value creation with CSIRO

Archer's Quantum Machine Learning (QML) project with CSIRO is progressing on schedule, with early technical work underway and initial results expected before mid-year.

Quantum sensing and TMR

Near-term commercial pathways

Archer has successfully demonstrated the measurement of highly sensitive magnetic fields at cryogenic temperatures using Tunnel Magnetoresistance (TMR) sensors.

Commenting on the progress, Dr Simon Ruffell, CEO of Archer, said,

"Quantum technologies do not progress in isolation. Success depends on building connected ecosystems that bring together materials, devices, software, and application expertise."

Our focus through 2026 and into 2027 remains clear: deliver working prototypes, generate high-quality experimental data, and position Archer's IP for adoption by partners with the scale to deploy quantum technologies globally.

"With strong progress supported by leading collaborators including Emergence Quantum, QMUL, EPFL and CSIRO, Archer is building a diversified quantum technology platform that addresses both near-term opportunities and long-term impact."

The Board of Archer authorised this announcement to be given to ASX.

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About Archer

Archer is a quantum technology company that operates within the semiconductor industry. The Company is developing advanced semiconductor devices, including chips relevant to quantum computing, sensing, and medical diagnostics. Archer utilises its global partnerships to develop these technologies for potential deployment and use across multiple industries.
www.archerx.com.au